

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

Industrial Part Depot LLC
11266 Royalton Road
North Royalton, Ohio 44133

Case No.: 1:16-cv-1843

Vs.

Federal Mogul Holdings Corporation,
c/o Corporation Service Company
2711 Centerville Rd. Suite 400
Wilmington, Delaware 19808

Judge:

Complaint For: Declaratory Judgment; Patent
Invalidity, Unenforceability, and/or Non-
Infringement; and, Relief Pursuant to
35USC§285

Jury Demand Endorsed Hereon

Federal Mogul World Wide Inc.
c/o CSC Lawyers Incorporating Service
601 Abbot Road
East Lansing, Michigan 48823

Plaintiff, Industrial Parts Depot LLC, by and through its attorneys, brings this action pursuant to 28USC§2201 and 35USC§1, *et. seq*, requesting that this Court enter declaratory judgment in favor of Plaintiff jointly and severally against the Defendants; and for relief pursuant to 35USC§285.

I. Introduction

1. Plaintiff and Defendants are business competitors; each of which independently develop, engineer, manufacture, and sell high performance steel pistons used in Caterpillar heavy duty diesel engines; in Ohio and worldwide. Defendants have accused Plaintiff of developing, manufacturing and selling such pistons for Caterpillar diesel engines; and thereby infringing upon three United States Patents which are owned, licensed, and/or practiced by Defendants (e.g.; collectively, and individually, the “FM Patents”)

2. Plaintiff, therefore, is requesting that this Court make a finding pursuant to 28USC§2201 and 35USC§1, *et seq*; declaring that the FM Patent(s) are: invalid, unenforceable, and/or not infringed upon by Plaintiff; and find that Defendants' conduct is in violation of 35USC§285, all as more fully set forth herein.

3. The FM Patents are:

(a) Patent No. 6,260,472; (*One Piece Integral Skirt Piston and Method for Making Same*); [which Plaintiff asserts is invalid and unenforceable pursuant to 35USC§102(a)(1), 35USC§103, 37CFR§1.56 *et. seq.*, and Section 2001 *et. seq.*, MPEP]. (See: Exhibit A; hereinafter, “..’472”)

(b) Patent No. 6,862,976 (*Monobloc Piston*); [which Plaintiff asserts is invalid and unenforceable pursuant to 35USC§102(a)(1), 35USC§103, and 35USC§112; and which Plaintiff asserts it does not infringe upon, literally and/or under the doctrine of equivalents]. (See: Exhibit B; hereinafter, “..’976”)

(c) Patent No. 6,557,514 (*Closed Gallery Monobloc Piston Having Oil Drainage Groove*; the ‘514); [which Plaintiff asserts it does not infringe upon, literally and/or under the doctrine of equivalents] (See: Exhibit C; hereinafter, “..‘514”)

4. In addition to the foregoing, Plaintiff further requests this Court determine that this matter is subject to adjudication by this Court pursuant to 28USC§285 by reason of the Defendants' conduct in the present dispute between the parties; and as such, mandates an award of costs, attorney's fees, expenses, and other relief in favor of the Plaintiff.

II. Parties

A. The Plaintiff

5. Plaintiff, Industrial Parts Depot, LLC (hereinafter; "Plaintiff", "IPD") is a California Limited Liability Company which has continuously maintained a primary location for the substantial conduct of its business in this District at the address set forth above, for more than 15 years.

6. Plaintiff conducts substantial and regular business activity in this District, including but not limited to maintaining in inventory, using, and selling; each and every one of the several types of high performance welded steel pistons for Caterpillar diesel engines developed, tested, and manufactured by Plaintiff; which Defendants have alleged infringe upon the FM Patents (the "IPD Products").

B. The Defendants

7. Defendant Federal Mogul Holdings Corporation (hereinafter "Defendant", "Holdings") is, upon information and belief, a Delaware corporation which conducts regular and continuous business, jointly and severally in this District with co- Defendant Federal Mogul World Wide Inc. and other Holdings subsidiaries. These business activities include but are not limited to owning, licensing and practicing the FM Patents; conducting business at facilities in this District, and selling the Defendants' competing pistons for Caterpillar diesel engines which are believed to incorporate the inventions set forth in the FM Patents; in this District.

8. Defendant Federal Mogul World Wide Inc. (hereinafter "Defendant", "World Wide") is, upon information and belief, a Michigan corporation; and, a wholly owned subsidiary of co-Defendant Holdings. World Wide, upon information and belief, is an owner and licensee or otherwise authorizes the use of substantially all of the United States Patents practiced by Holdings, including the FM Patents. World Wide conducts regular and continuous business, jointly and severally in this District with co- Defendant Holdings and other Holdings subsidiaries;

which business activities include but are not limited to owning and licensing the FM Patents; and, selling the Defendants' competing pistons for Caterpillar diesel engines which are believed to incorporate the inventions set forth in the FM Patents; in this District.

9. Defendants have represented to Plaintiff that they are the owners and/or sole licensees of the FM Patents and that they are legally entitled to enforce them against Plaintiff to thereby prohibit the Plaintiff's making, using, and selling the IPD Products in this District.

III. Jurisdiction and Venue

10. This action arises under of the patent laws of the United States; 35USC§1, *et. seq.*, Federal Regulations authorized thereby; including but not limited to 37CFR 1.56 *et. seq.*; and; 28USC§ 2201.

11. This Court has subject matter jurisdiction over Plaintiff's claims because this is a civil action for declaratory judgment; by which Plaintiff requests a determination by this Court of the validity, enforceability, and/or non-infringement of the FM Patents by Plaintiff. And, and therefore arises under 35USC§1, *et. seq.*, 37CFR§1.56, 28USC§2201, and further, under 28USC§§1331, 1332, and 1338.

12. The Defendants are subject to the personal jurisdiction of this Court because they have substantial and continuous contacts within this District and conduct business activity in this District by owning, licensing, and or practicing the FM Patents directly, indirectly, and/or through numerous Holdings subsidiaries located in the District and otherwise; as well as selling Defendants' competing piston products for Caterpillar diesel engines which are believed to incorporate the inventions set forth in the FM Patents in this District.

13. Jurisdiction is proper in this Court because the acts of the Plaintiff giving rise to this action; e.g., making, using, and selling the IPD Products that Defendants claims infringe

upon the FM Patents; and the right of the Plaintiff for relief pursuant to 28USC§2201, 35USC§102, 35USC§103, 35USC§112, 35USC§285, and 37CFR1.56; have occurred in this District; therefore, this Court has both general and specific personal jurisdiction over the Plaintiff and the Defendants.

14. Jurisdiction is also proper before this Court by reason that a justiciable case and controversy exists which is ripe for adjudication pursuant to 28USC§2201, which arises out of the Defendants' written cease and desist communication sent to the Plaintiff on March 29, 2016 regarding the FM Patents and the IPD Products. The foregoing communication constitutes a credible threat and creates a reasonable apprehension on the part of Plaintiff that Defendants will institute litigation to enforce Defendants' patent rights. In addition, the foregoing communication constitutes and demonstrates a substantial controversy between the Plaintiff and Defendants which have adverse legal interests; including but not limited to Defendants' demand that Plaintiff be prohibited from making, using and selling the IPD Products. And, contra, Plaintiff's allegations of invalidity, unenforceability, and/or non-infringement of the FM Patents. Therefore, the foregoing dispute is of sufficient immediacy as to warrant prompt adjudication pursuant to 28USC§2201.

15. Venue of this action is proper in the Northern District of Ohio under 28USC§1331(b)(2) and (3), and 28USC§1400(b) because the Plaintiff and the Defendants are both subject to the personal jurisdiction of this Court in this District; and; the acts, events, and conduct of Plaintiff as alleged by Defendants which therefore give rise to Plaintiffs' claims, have occurred and will continue to occur in the District.

IV. Facts

16. Plaintiff hereby reincorporates Paragraph 1 through 15 as if fully set forth herein.

17. Defendant IPD was established in 1955 for the independent development, engineering, testing, and manufacturing of high quality replacement parts for heavy duty diesel engines used in construction, mining, agricultural, on and off highway trucks, and marine applications. IPD parts are sold to distributors, repair shops, engine rebuilding businesses, and the owners of these engines and equipment as well.

18. Historically, and presently, IPD develops, manufactures and sells replacement parts for among others, Caterpillar, Cummins, Detroit Diesel, Volvo, and Waukesha diesel and natural gas fueled engines. As such, IPD's engine parts business is a long term, capital intensive, high technology core business activity that provides independently developed, engineered, and manufactured pistons and other engine parts for over one hundred different engine makes and models. (See: Exhibit D, IPD Brochure)

19. Today, both Plaintiff and Defendants, as well as industry leaders such as Mahle, Kolbenschmidt and others have independently developed new types of high performance pistons that will survive in the increasingly hostile environments of governmental emissions requirements and high engine horsepower. In this process, traditional piston materials such as aluminum alloys and other earlier piston designs for high performance diesel engine pistons have been superseded by numerous all-steel designs. Many of such steel pistons are initially forged or cast in two parts which are then joined by a process known as friction welding, resulting in a high-performance, one piece steel piston.

20. The friction welding manufacturing method used by Plaintiff and Defendants to make their respective steel pistons; was commercialized by others in the 1970's and has been applied to making hundreds of parts and assemblies in every imaginable industry. In the last 15-20 years, friction welding has been used to make high-performance steel pistons. Neither

Plaintiff nor Defendants make friction welding machines, but employ the machines in their operations and/or subcontract the welding operations.

21. The manufacturing method of friction welding consists of using a specialized welding machine which holds one element (ex., a piston upper or lower half) of the final product stationary while spinning the other (ex., a piston upper or lower half) element at high speed and then forcing the two together. The heat and pressure developed solely by the friction between the spinning and stationary elements results in a completed welded product (e.g., a complete piston), ready for additional machining and finishing; as shown by the following images.

Friction Welding



Friction Welding Machine



22. Today, Plaintiff and Defendants have each independently developed, made, and sell, their own versions of high performance, friction welded steel pistons which have been adapted to the specific engineering and performance requirements of the Caterpillar C-7 and C-15 high-performance, in-line, six cylinder diesel engine families. Examples of the IPD Products are set forth in the images below. (See: Exhibit E, IPD C-7 Product Bulletin; Exhibit F, IPD C-15 Product Bulletin)



23. The Caterpillar C-7 and C-15 engines are installed in Caterpillar machines and equipment such as earthmovers, trucks, generators and material handling equipment. The engines are also sold separately by Caterpillar to their franchised dealers as well as directly to other manufacturers, for installation in off highway, truck and marine products made by these engine buyers. The images below show typical C-7 and C-15 engines. (See: Exhibit G, Caterpillar C-7 brochure; Exhibit H, Caterpillar C-15 brochure)



24. Presently, it is estimated that Caterpillar has made and sold, for all purposes, several hundred thousand new C-7 and C-15 engines. It is reasonably expected that over 80% of the C-7 and C-15 engines will be repaired, rebuilt, or re-manufactured at least once in their useful life. Therefore, a large potential market exists today for both Plaintiff and Defendants' friction welded steel piston products; as well as for new engines made and rebuilt in the future.

25. The C-7 and C-15 engines have a designed-in 10-20 year useful life and are engineered from day one by Caterpillar to be rebuilt many times in their useful service life.

Such rebuilding activities require the replacement of the pistons, cylinder sleeves, sealing rings, bearings, gaskets, and many other components which effectively restore the engines to ‘as new’ condition ready for another service cycle.

26. The business of rebuilding C-7 and C-15 engines is conducted across a broad spectrum of industries: Caterpillar’s franchised dealers, specialized independent engine rebuilding businesses, independent equipment dealers and repair shops, and the owners and operators of the engines/equipment; which constitute existing and/or potential customers for Plaintiff’s and Defendants’ C-7 and C-15 piston products.

27. In 2012 Plaintiff, entirely independently of Defendants, began developing and subsequently tested, and produced its own unique versions of friction welded steel replacement pistons for the Caterpillar C-7 and C-15 engine families, which have been favorably received in the marketplace for engine rebuilding parts. (See: Exhibit E and Exhibit F)

28. Defendants, on a scale many orders of magnitude greater; develop, engineer, test, manufacture and sell thousands of different parts and components for automotive, aerospace, off road and heavy highway machines and equipment to both the Original Equipment Manufacturers (hereinafter ‘OEM’) Ford, GM, FCA, Caterpillar, John Deere, Volvo and many others; including Defendants’ versions of friction welded steel pistons for use in Caterpillar C-7 and C-15 engines.

29. Plaintiff sells its C-7 and C-15 pistons on the open market to (including but not limited to) independent parts distributors, equipment dealers, specialized engine rebuilders, repair shops and engine/equipment owners; however, Plaintiff does *not* sell its C-7 and C-15 pistons to Caterpillar.

30. In contrast to Plaintiff; Defendants provide their C-7 and C-15 pistons to Caterpillar; for Caterpillar's installation in new C-7 and C-15 engines, and also for distribution by Caterpillar through franchised Caterpillar dealers and others. Caterpillar dealers and others sell and use Defendants' pistons in their engine and equipment repair businesses, and sell Defendants' pistons to engine/equipment owners, independent distributors, and repair shops. There are four Caterpillar dealer locations in this District which sell and use Defendants' pistons which are believed to incorporate the inventions set forth in the FM Patents.

31. The openly competitive situation between Plaintiff and Defendants peaceably existed until May of 2015; when Plaintiff began receiving reports of Federal Mogul employees publicly representing "Federal Mogul and IPD engaged in a lawsuit and pending litigation with respect to steel pistons"; after which Plaintiff promptly reported to and inquired of, Defendants. Defendants did not respond. And, an inquiry of the Federal Court PACER system found no record of any such lawsuits, therefore Plaintiff continued in its piston business. It was not until nearly a year later when Defendants sent Plaintiff a 'cease and desist' letter on March 29, 2016, that Plaintiff was aware of any *genuine assertions* of its infringement of the FM Patents. In Defendants' letter, they represented that they are the owners and/ or licensees of the FM Patents, that they can enforce them against alleged infringers, that Plaintiff was infringing upon the FM Patents, and demanded that the Plaintiff cease and desist 'making, using, and selling' Plaintiff's C-7 and C-15 pistons. (See: Exhibit I, Plaintiff's 5.26.2015 e-mail to Defendants; Exhibit J, Defendant's 3.29.2016 letter to Plaintiff)

32. Subsequent to receiving the March 29, 2016 communication; Plaintiff informed Defendants (i) that it does not literally or by the doctrine of equivalents, infringe upon the claims of the '514 patent (ii) that it does not literally or by the doctrine of equivalents, infringe

upon the claims of the ‘976 patent, (iii) that the ‘472 patent is invalid pursuant to 35USC§102, 35USC§103, 37CFR§1.56 and Section 2001 of the MPEP; and, (iv) that the ‘976 patent is invalid pursuant to 35USC§102, 35USC§103, and 35USC§112. Notwithstanding being so informed, Defendants continue to make their assertions of infringement and demands that Plaintiff cease and desist making, using, and selling the IPD Products, the C-7 and C-15 pistons.

33. The first FM Patent which Defendants’ claim is infringed by Plaintiff is: United States Patent No. 6,260,472; “One Piece Integral Skirt Piston and Method of Making”.

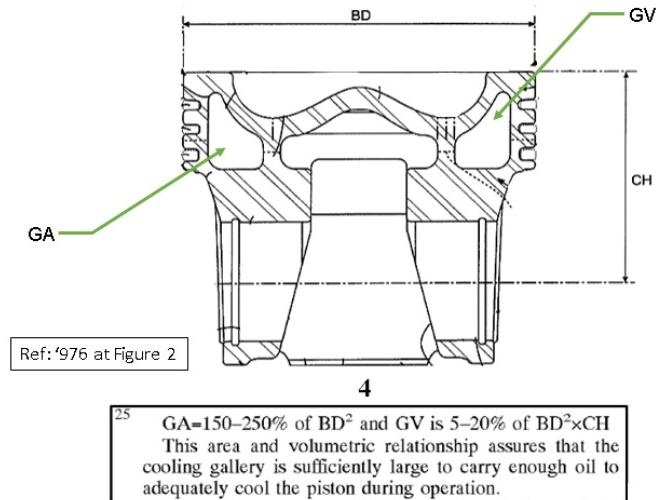
34. The Application for the ‘472 was filed on July 28, 1998; however, it was not allowed at the examination phase. On Appeal, the ‘472 was allowed in substantially amended form. The ‘472 was then the subject of Ex-part Re-examination; and finally allowed in further substantially amended form nine years later, on August 4, 2009. It is this final form of the re-examined ‘472 that is a subject of this action. (See: Exhibit A).

35. Presently, Defendants’ assert that Claim 5 of the *as re-examined* ‘472 prohibits any use of the *manufacturing method* of friction welding to join two separate parts of any steel piston together; that such *manufacturing method* claim is applicable to the Plaintiff’s C-7 and C-15 pistons; and therefore, Plaintiff’s pistons infringe the ‘472 patent. (See: Exhibit I; Exhibit A, ‘472 Re-examination Certificate, at Column 2, Lines 50 to 65)

36. The second FM Patent which Defendants allege is infringed by Plaintiff is: United States Patent No. 6,862,976; “Monobloc Piston”.

37. The ‘976 does not independently claim a friction welding invention. However, it does describe and claim a piston which incorporates certain physical dimensions established by Caterpillar’s proprietary engine design. These dimensions are the diameter of the piston and the ‘compression height’ (the distance from the centerline of the pin securing the piston

to the connecting rod and hence the crankshaft to the topmost part of the piston) In the ‘976 these dimensions are identified by Defendants as [bore diameter] “BD” and [compression height] “CH” as shown on the following image. (See also: Exhibit B; at Figure 2)



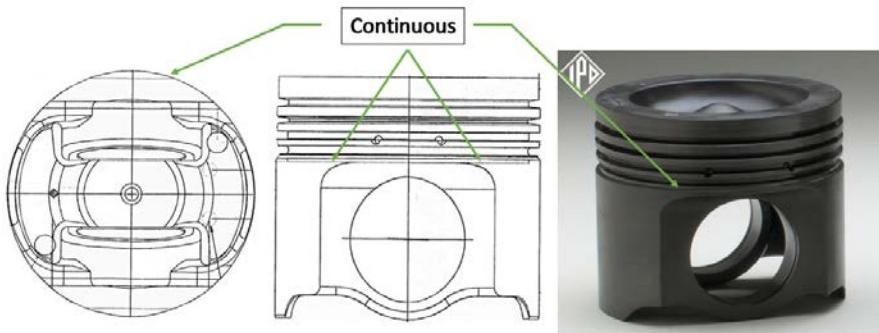
38. The ‘976 incorporates in Claim 1, numerous arbitrary ‘ratios’ allegedly derived in some unknown, unidentified, and undisclosed manner from the Caterpillar dictated dimensions (BD,CH). The ‘ratios’ generally taken as a whole, nominally describe and claim an incomplete ‘picture’ of the C-7 and C-15 pistons that fit only these Caterpillar diesel engines. (See: Exhibit B; at Column 4, Lines 57 – 67, Column 5, Lines 1-7 and Column 6, Lines 1-3, [Claim 1 limitations])

39. The third FM Patent which Defendants allege is infringed by Plaintiff is United States Patent 6,557,514.

40. The ‘514 does not independently claim a friction welding invention. However, the ‘514 does identify a friction welded steel piston and describes and claims a twice interrupted circumferential channel around the middle of the piston (“4th groove”) which is designated as a means to permit faster removal of lubricating oil from the cylinder to enhance the

operating and emissions performance of the piston. (See: Exhibit K; [excerpted and annotated Exhibit C, ‘514; Drawings at Figure 1])

41. It is this specific design of the 4th circumferential groove which is twice interrupted by the two opposite flat parts of the piston that is set forth as a means for the lubricating oil collected in the 4th groove to flow back to the engine’s oil pan beneath the piston and cylinder. As clearly demonstrated by the following images and identified Exhibits; Plaintiff’s pistons do not incorporate such a twice interrupted groove and in fact, incorporate an entirely different and continuous *4th groove* and therefore do not infringe upon the ‘514. (See: Exhibit K, ‘514 *oil return path illustration*; Exhibit L, IPD Drawings; Exhibit O, IPD Drawings; Exhibit C; at Column 4, Lines 34 to 42, [Claim 1] for the specific *interrupted 4th groove limitation*, Column 5, Lines 4-8, [Claim 8], for the specific interrupted *4th groove limitation*, Column 6, Lines 8-14, [Claim 9], for the specific *interrupted 4th groove limitation*)



V. First Cause of Action: Declaratory Judgment of Invalidity, Unenforceability and/or, Non-infringement

42. Plaintiff hereby reincorporates Paragraphs 1-41 as if fully set forth herein.
43. For its first cause of action, the Plaintiff states that it is entitled to declaratory judgment that: (i) that the ‘472, and ‘976, patents are invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff; and/or, (ii) Plaintiff does not literally and/or under

the doctrine of equivalents; infringe upon the ‘976, and ‘514 patents, as further set forth in the following Paragraphs 44 through 59.

44. The ‘472 is invalid by reason of failing to comply with the requirements of 35USC§102(a)(1); Novelty; because the claimed invention as finally set forth in the ‘472 Re-Examination Certificate at Claim 5, e.g., the friction welding of the upper and lower parts of a steel piston was a manufacturing method actually commercially practiced by Defendants for at least three to four years prior to the filing date of the ‘472 Application. (See: Exhibit A, [Claim 1], at Column 2, Lines 45-60)

45. One of the named inventors of the ‘472, Mr. Xiluo Zhu (“Zhu”) was employed as a piston engineer by corporate predecessors of Defendants, Metal Leve and T&N, and thereafter by Defendants. At all relevant times Zhu participated in the use of the invention claimed in the ‘472 for the engineering and manufacture by friction welding, of steel pistons for sale by Metal Leve, T&N, and, Defendants, for certain Cummins diesel engines as early as 1994; and as such, along with Defendants, actually commercially practiced the invention asserted by Defendants to be set forth in Claim 5 of the ‘472.

46. The facts set forth in Paragraph 45 were then and are today, known by Zhu and Defendants, including at the time of the Application for the ‘472 and at all relevant times thereafter during the protracted prosecution of the ‘472 Application, the Appeal, the Re-examination proceedings, a certain prior patent litigation subsequently set forth in detail herein; and in the present assertion by Defendants of the infringement of the ‘472 by Plaintiff.

47. The ‘472 is invalid by reason of failing to comply with the requirements of 35USC§102(a)(1) Novelty; because the events and occurrences set forth in Paragraph 45 demonstrate that the Defendants made available for public use, sold, or otherwise made available

or disclosed to the public; the invention of Claim 5 of the ‘472 at least three to four years prior to the filing of the Application for the ‘472 patent on July 28, 1998; and therefore renders the ‘472 invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

48. The ‘472 is invalid by reason of failing to comply with the requirements of 35USC§103; Obviousness; because the invention of Claim 5, the manufacturing method of friction welding of the upper and lower parts of a steel piston was publicly and commercially practiced by Zhu and Defendants beginning in 1994. This is demonstrated by the fact that at all relevant times Zhu participated in the use of the invention claimed in the ‘472 for the engineering and manufacture by friction welding, of steel pistons for sale by Metal Leve, T&N, and, Defendants for certain Cummins diesel engines as early as 1994; and along with Defendants, actually commercially practiced the invention asserted by Defendants to be set forth in Claim 5 of the ‘472. Therefore, the invention set forth in Claim 5 of the ‘472 patent was obvious to Zhu and Defendants before the filing date of the Application for the claimed invention on July 28, 1998, as well as at all relevant times thereafter; and therefore, renders the ‘472 is invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

49. The ‘472 is invalid because in Defendants’ Application, Appeal; and Ex-Parte Re-examination submissions to the USPTO; Zhu *and* Defendants failed to disclose the undisputed facts that Zhu, and Defendants had actually publicly and commercially practiced the claimed invention, jointly and severally as many as four years, but no less than one year prior to the filing of the Application.

50. The Defendants’ omission of material information regarding prior art as set forth in Paragraphs 45 – 48; demonstrates and constitutes a clear violation of 37 CFR 1.56 and Section 2001 *et. seq.* of the MPEP which unambiguously mandate complete and candid disclosure.

A review of USPTO records demonstrate that the failure to identify and disclose the public disclosure and commercial practicing of the invention of Claim 5; by Zhu and Defendants as early as 1994 constitutes the willful omission of material prior art, because such prior art (i) it establishes, by itself, or in combination with other information a *prima facie* case of (non) patentability, and/or because (ii) is inconsistent with asserting an argument of patentability (All as set forth in the Application, Appeal and Re-examination) all of which renders the ‘472 invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

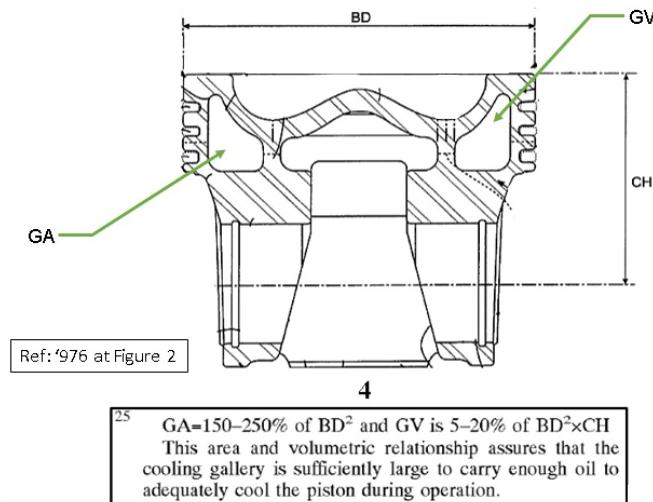
51. The Defendants’ conduct described in Paragraphs 45-48, also constitutes a violation of 37CFR§1.56 sub-sections (b)(1) and (b) (2) and further constitutes a violation of 37CFR§1.56, Section 3 as this conduct involves those “persons” as defined and identified pursuant to 37CFR Section(s) 3(c)(1) and (c)(3); such “persons” being, in this instance, Zhu and Defendants, jointly and severally; which therefore renders the ‘472 invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

52. The ‘472 is invalid because the conduct set forth in Paragraph 45-51; taken separately or in the aggregate constitutes and demonstrates inequitable conduct which requires that the ‘472 must be determined to be invalid as a matter of law. And, such conduct in the present instance is of particular significance because the existence of the prior art was uncontestedly, at all relevant times, information fully and demonstrably *actual knowledge* in the possession and control of Zhu *and* the Defendants, which are identified and defined as ‘persons’ in 37CFR§1.56(c)(1) and (c)(3); and which therefore renders the ‘472 invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

53. The ‘976 is invalid by reasons of failing to comply with 35USC§112 *et seq.*; which requires that: “The specification shall contain a written description of the invention,

and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.”

54. The invalidity of the ‘976 is conclusively demonstrated by Exhibit B, at Figure 2 in the Description; and the following image; because there are no dimensions of the cavity (“gallery”) in the upper part of the piston from which the mathematical “ratios” GA and GV as set forth in Claim 1 may be derived. Additionally, in not one part of the drawings, description, or claims of the ‘976 are any engineering, scientific, or mathematical methodologies, indeed any methodology whatsoever disclosed by which the claimed ‘ratio’ inventions GA and GV are determinable. (See: Exhibit B, at Figure 2, [Description] at Column 4, Lines 26-29)



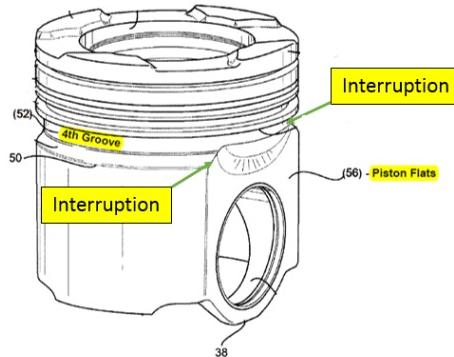
55. The claimed inventions of Claim 1 of the ‘976, the “ratios”, GA and GV, are *prima facie* indefinite and entirely speculative; because neither the specification nor the claims of the ‘976 provide sufficient, indeed, any information by which to determine what “gallery area [GA]” or “gallery volume [GV]” is meant to define; including but not limited to whether “gallery

area” is meant to be a cross-sectional area of the open chamber in the upper part of the piston, the wall area of the entire cavity, or something altogether different.

56. The incorporation of the undefined and unsupported claim terms “gallery area” and “gallery volume” in Claim 1 of the ‘976 patent make it invalid as indefinite for reason of not satisfying the requirement of 35USC§112, e.g., by failing to “particularly point out and distinctly claim the subject matter which the applicant regards as his invention.” And, therefore renders the ‘976 invalid and unenforceable; and as such, cannot be infringed upon by Plaintiff.

57. The Plaintiff, alternatively, and without waiving its assertions of invalidity and unenforceability of the ‘976; also states that it does not literally or under the doctrine of equivalents, infringe upon Claim 1 of the ‘976, because the C-7 and C-15 pistons engineered, made and sold by Plaintiff do not incorporate each and every one of the calculated dimensional “ratios” which are the limitations set forth in Claim 1. (See: Exhibit M, IPD Ratio Claims Chart)

58. The Plaintiff does not literally or under the doctrine of equivalents; infringe upon the Claims of the ‘514 because Plaintiff’s C-7 and C-15 pistons do not incorporate the claimed inventions of the ‘514. The invention of Claims 1, 8, and 9 of the ‘514 consists of a single circumferential “4th groove” (52, Figure 1) in the body of the described piston *which is interrupted two times by the opposite flat parts of the lower portion of the piston* (56, Figure 1); as shown by the following image. (See: Exhibit C; at Figure 1, (items [52] and [56] Column 2, [Detailed Description]; Lines 16-29, [Claim 1] at Column 4, Lines 34-42, [Claim 8] at Column 5, Lines 3-5, [Claim 9], at Column 6, Lines 8-14); See also: Exhibit K and Exhibit N.)



Ref: FIG 1, '514

An oil drainage groove 52 is machined into the outer surface 26 of the ring belt 14 adjacent its lower region 18, separating the outer surface 26 of the ring belt from an outer surface 54 of the skirt 46 and defining the upper surface 50 of the skirt 46. 20 The groove 52 does not extend through to the gallery 32 nor to the interior of the skirt 46 and is preferably aligned radially with the bottom wall 36 of the gallery 32. A bottom wall 53 of the oil groove 52 extends circumferentially about the piston 10 between the pin bosses 38, but is interrupted 25 across the region of the pin bosses 38, such that the oil groove 50 opens up to the recessed outer planar faces 56 of the pin bosses 38 as illustrated in FIG. 2, permitting any oil gathered in the oil groove 52 to drain downwardly back into the crank case across the region of the outer faces 56.

35 an oil drainage groove formed in said piston head at a location below said ring grooves, said oil drainage groove being free of any piston rings and being open to said outer surfaces of said pin bosses, said oil drainage groove including a bottom wall that extends substantially circumferentially continuously between said pin 40 bosses and which is interrupted by said outer surfaces of said pin bosses.

10 an oil drainage groove formed in said piston head at a location below said ring grooves, said oil drainage groove being free of any piston rings and being open to said outer surfaces of said pin bosses, said oil drainage groove is closed to said oil cooling gallery and to an interior of said skirt.

59. The Plaintiff does not practice the invention of the '514 as uncontestedly demonstrated by the images of the IPD Products set forth herein at Paragraph 41 which identify and define a *continuous* 4th groove which *is not interrupted* by the flat pin boss areas of the Plaintiff's pistons; and therefore the IPD products which are manufactured in accordance with Exhibit O do not in any manner whatsoever, infringe upon any claim of the '514. (See: Exhibits L, Images of IPD pistons; and Exhibit O, [redacted] IPD C-7 and C-15 composite engineering drawing).

VI. Second Cause of Action: Exceptional Case Designation and Award: 35USC§285

60. Plaintiff hereby reincorporates Paragraph 1-59 as if fully set forth herein.

61. Plaintiff was first and indirectly informed of the Defendants' field sales employees assertions of "Federal Mogul and IPD engaged in a lawsuit and pending litigation with respect to steel pistons" in mid –May of 2015. Plaintiff promptly made a good faith inquiry of Defendants by way of contacting Defendants head of diesel engine piston engineering. (See: Exhibit I, IPD e-mail to Defendants); and, confirmed via a search of PACER that no such lawsuits had been filed.

62. Defendants did not, however, until March 29, 2016, respond in any manner to Plaintiff's good faith contact and inquiry set forth at Paragraph 31 and 61. Instead, on March 29, 2016 Defendants sent a cease and desist letter to Plaintiffs as described more fully at Paragraph 31 (See also: Exhibit I and Exhibit J)

63. Subsequent to May of 2015; Plaintiff reasonably determined that: (i) the '472 was invalid by reason of a host of material defects, (ii) the '976 was invalid by reason of indefiniteness; and (iii) Plaintiff did not infringe upon either the '514 or the '976 literally or by equivalents. And, combined with the absence of any communication from Defendants, or any PACER reports of actual litigation; Plaintiff continued in good faith making and selling the IPD Products.

64. Additionally, among the information reviewed by Plaintiff after May 2015; was the publicly available portions of Case No. 2:11-cv-10675; (United States District Court for the Eastern District of Michigan): Federal Mogul World Wide Inc. and Federal Mogul Corporation v. Mahle GMBH and Mahle Engine Components USA, Inc.(*Mahle*); wherein World Wide and Corporation (nka Holdings), then appearing as Plaintiffs; alleged that friction welded steel diesel engine pistons made, used, and sold by the *Mahle* defendants infringed upon the '472. Plaintiff again reviewed the *Mahle* case after receiving Defendants' March 29, 2016 communication.

65. In the context of Defendants' 2015 and 2016 assertions, Plaintiff reasonably determined from the *public file* of *Mahle*; (which was conducted under a confidentiality order) that there were numerous documents produced by World Wide, Mahle, and others; deposition transcripts, hearing transcripts, and declarations by World Wide and Holdings employees, Mahle employees, and many others; all of which clearly and unquestionably demonstrated that the

manufacturing method of friction welding the upper and lower parts of a steel piston as claimed to have been invented in the ‘472 was a *manufacturing method* practiced by Zhu when he was an engineer employed by corporate predecessors of Holdings and World-Wide, Metal Leve and T&N, and then Defendants. The foregoing materials set forth the facts of Zhu’s and Defendants’ use of the invention claimed in the ‘472 for the engineering and commercial manufacture of friction welded steel pistons by Metal Leve, T&N, and Defendants, for certain Cummins diesel engines as early as 1994.

66. The factual situation set forth in Paragraphs 45-50, and Paragraph 65; was submitted by the (Mahle) defendants to the Court in *Mahle*; and, was not materially disputed by Holdings and World Wide. However, the invalidity issues raised by the Mahle defendants in *Mahle*, were not adjudicated by reason of a confidential settlement occurring very shortly after the above matters were brought to the attention of the Court, on the record, by *Mahle*.

67. Nonetheless, in this matter; despite Defendants’ present internal/institutional knowledge (Zhu and a key witness in *Mahle* remain employed by Defendants), public and sealed court records and testimony, and other knowledge of the invalidity of the ‘472 brought forth in *Mahle*; as well as Plaintiff’s so informing the Defendants of the foregoing, Defendants have continued to demand that Plaintiff cease and desist making, using and selling its C-7 and C-15 pistons that allegedly infringe upon the knowingly invalid ‘472.

68. Defendants’ conduct heretofore, which has compelled Plaintiff to commence this action to defend itself against the assertions of infringement of the ’472 FM Patent which Defendant knows is invalid, operates to make this matter subject to adjudication by this Court pursuant to 35USC§ 285.

VII. Relief Requested

Wherefore the Plaintiff respectfully requests that this Court enter a judgment in Plaintiff's favor and against the Defendants; and thereby provide the following relief:

1. Order, adjudge, and decree that:

United States Patent 6,260, 472 ('472), is invalid by reason of:

- i. Failure to satisfy the requirements of 35USC§102(a)(1);
- ii. Failure to satisfy the requirements of 35USC§103;
- iii. The violation of 37CFR§1.56 *et. seq.* by the inventor Zhu and Defendants in the prosecution of the Application, Appeals, and Ex-part Re-examination of the '472;
- iv. The violation of MPEP Section 2001 *et. seq.* by the inventor Zhu and Defendants in the prosecution of the Application, Appeals, and Ex-part Re-examination of the '472;
- v. The inequitable conduct on the part of the inventor Zhu and Defendants in the prosecution of the Application, Appeals, and Ex parte Re-examination of the '472
- vi. United States Patent 6,260,472 by reason of invalidity is unenforceable against the Plaintiff.
- vii. United States Patent 6,260,472 by reason of invalidity cannot be infringed upon by Plaintiff.

2. Order, adjudge, and decree that:

i. United States Patent 6,862,976 is invalid by reason of failure to satisfy the requirements of 35USC§112.

ii. That United States Patent 6,862,976 by reason of invalidity is unenforceable against the Plaintiff.

iii. United States Patent 6,862,976 by reason of invalidity cannot be infringed upon by Plaintiff.

iv. Plaintiff does not infringe upon United States Patent 6,862,976 for the reason that the IPD Products do not literally infringe upon the claims of the ‘976.

v. Plaintiff does not infringe upon United States Patent 6,862,976 for the reason that the IPD Products do not infringe upon the claims of the ‘976, under the doctrine of equivalents.

3. Order, adjudge, and decree that:

i. Plaintiff does not infringe upon United States Patent 6,557,514 for the reason that the IPD Products do not literally infringe upon the claims of the ‘514.

ii. Plaintiff does not infringe upon United States Patent 6,557,514 for the reason that the IPD Products, the C-7 and C-15 pistons, do not infringe upon the claims of the ‘514, under the Doctrine of Equivalents.

4. Order, adjudge, and decree that:

i. This proceeding is subject to adjudication pursuant to 35USC§285;

ii. By reason of Defendants’ conduct in violation of 35USC§285; that Plaintiff is entitled to its reasonable attorney’s fees and costs for maintaining this action;

iii. Plaintiff is entitled to an award of any such additional relief pursuant to 35USC§285 that would be reasonably calculated in view of the status and identity of Defendants, to effectively deter such conduct in the future.

5. Award Plaintiff any other relief that the Court should find just and reasonable under the circumstances.

/s/ Robert W. McIntyre
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JURY DEMAND

Plaintiff hereby demands a trial by the maximum number of jurors permissible in this matter on all triable issues.

/s/ Robert W. McIntyre
ROBERT W. McINTYRE (0006768)
Attorney for Plaintiff IPD Inc.